

recognizing

that, as a means to ensure that the frequency bands allocated to the mobile-satellite service can be used in an efficient manner, there is an urgent demand for:

1. criteria to be established by ITU-R to be used in determining the need to coordinate between mobile-satellite systems; and
2. detailed methods of interference calculation to be used by administrations in the coordination process;
3. ITU-R studies which should not impede the timely deployment of any mobile-satellite service systems,

resolves to invite ITU-R

1. to continue its studies on this subject and develop, as a matter of urgency, criteria for determining the need to coordinate and calculation methods for determining levels of interference, as well as the required protection ratios between networks in the mobile-satellite service;
2. to study, as a matter of urgency, the use of technically and operationally feasible techniques to allow for improvements in spectrum efficiency in MSS systems,

further resolves

1. that ITU studies should be focused on the technical and operational characteristics of systems using spread-spectrum multiple-access techniques that can allow co-frequency, co-coverage, codirectional sharing but which involve cooperation among systems' operators to maximize the efficient use of spectrum by multiple mobile-satellite service systems using such access techniques;
2. that administrations responsible for the introduction of mobile-satellite systems are urged to implement, as practicable, the latest available technologies to improve spectrum efficiency consistent with the requirement to offer viable MSS services;
3. to recommend that administrations be encouraged to use the most advanced technology available when preparing to implement their global MSS systems in the 1 - 3 GHz range so that they may operate, if necessary, in different frequency bands in different regions, in accordance with the MSS allocations in the 1 - 3 GHz range decided by this Conference.

RESOLUTION No. 310 (Rev.WRC-97)

**FREQUENCY PROVISIONS FOR DEVELOPMENT AND FUTURE
IMPLEMENTATION OF SHIP MOVEMENT TELEMETRY,
TELECOMMAND AND DATA EXCHANGE SYSTEMS**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) the need to specify radio frequencies which may be used by the maritime mobile service on a world-wide basis for ship movement requirements including transmission of electronic nautical chart data corrections, using digital automated data exchange, telemetry and telecommand techniques;
- b) the developments now in progress in different portions of the frequency spectrum which will require common frequency bands in the future for efficient frequency utilization;
- c) the importance of these systems in the safe and efficient operations of ships;
- d) the advantages to port authorities for safe and efficient port management and operations;

noting

- a) that ITU-R is considering this matter particularly within its Question 55/8;
- b) that further operational and technical information is needed in deciding the most effective frequency utilization and sharing criteria;
- c) that the International Maritime Organization (IMO) has identified a need for data exchange, using digital transmission techniques, between shore and ship for ship's position and movement data, correction data of radionavigation systems and electronic nautical charts;

resolves

that a future competent world radiocommunication conference should review possible frequency provisions in the light of additional studies;

requests administrations

to review the requirements relating to future ship movement telemetry, telecommand and data exchange systems and submit relevant results to ITU-R,

invites ITU-R

to examine and advise on modulation techniques such as spread spectrum, frequency bands, bandwidths and data formats in coordination with administrations developing and testing these digital transmission systems;

invites the Council

to include this Resolution in the agenda of a forthcoming competent world radiocommunication conference;

instructs the Secretary-General

to communicate this Resolution to IMO and the International Hydrographic Organization (IHO).

MOD

ANNEX TO RESOLUTION 312 (Rev.WRC-97)

**DISTRIBUTION PLAN FOR GROUP CHANNELS HF A1A MORSE
COAST STATIONS BY COUNTRIES AND AREAS¹**

Group 1		Group 2		Group 3		Group 4	
AGL	LBR	ALG	GRC	ALS	LTU	AFS	MLT
AZE	MAU	ATN	HKG	ARG	LVA	ALB	NZL
AZR	MDG	ARS W ⁴	HNG	BRM	MDR	ARS E ⁸	PNG
B	MRT	BEL	HOL	CAN CL ⁷	MOZ	AUS	POR
BAH	NCG	BEN	I	CAN E ⁷	MRA	BUL	PTC
BER	NCL	BRB	KOR	CAN NE ⁷	MRC	CHN ⁹	RUS AN
BGD	OCE	CBG	LBN	CHN	NIG	COD	RUS EO
BHR	OMA	CHR	MEX	DNK	NOR	E	RUS NW
CAN W ²	PHL	CKH	MRT	EST	NRU	FJI	RUS SW
CAN NW ²	PTR	CLM	NCL	FIN	PAK	GEO	RUS W
CHL	REU	CLN	OCE	GEO	RUS EO	GNE	SEN
CNR	ROU	CME	PNR	GHA	RUS NW	IND E	SEY
CTI	RUS AS	COG	POL	GNB	RUS SW	INS	SLM
DJI	SNG	CPV	PRG	GUI	RUS W	IRQ	SMA
EQA	STP	CTR	PRU	GUM	S	J	SRL
ERI	SUI	CUB	REU	GUY	SVN	JOR	SUR
ETH	TKM	CYP	RUS NW	HRV	TRD	KWT	SYR
F	UKR	CZE	RUS EO	HWA	TUR	LVA	TGO
G	USA E ³	DOM	SDN	IRN	UKR	LTU	TUN
IND W	VUT	EGY	SVK	ISL	USA W	MAU	UKR
IRL		F	THA	JMC	VEN	MDA	URG
ISR		FLK	USA SO ⁶	LBY	YUG	MLA	VTN
KEN		G ⁵	VUT				YEM
KRE		GAB	YEM				
		GMB					

NOTES

- 1 The meaning of the symbols is given in Tables B1 and 4E1 of the Preface to the International Frequency List and the Weekly Circular.
- 2 Canada (West Coast and Western Arctic).
- 3 United States (East Coast).
- 4 Saudi Arabia (West).
- 5 22 MHz only.
- 6 United States (Gulf of Mexico Coast).
- 7 Canada (East Coast and Eastern Arctic).
- 8 Saudi Arabia (East).
- 9 China (Province of Taiwan).

MOD

RESOLUTION 339 (Rev.WRC-97)

COORDINATION OF NAVTEX SERVICES

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that IMO has established a Coordinating Panel on NAVTEX to, *inter alia*, coordinate the operational aspects of NAVTEX services, such as allocation of transmitter identification character (B1) and time schedules, in the planning stages for transmissions on the frequencies 490 kHz, 518 kHz or 4 209.5 kHz;
- b) that coordination in the frequencies 490 kHz, 518 kHz and 4 209.5 kHz is essentially operational;
- c) that Article 14A of the Radio Regulations was deleted by WRC-95 with effect from 18 November 1995;
- d) that the frequency band around 518 kHz is also allocated to the aeronautical radionavigation service on a primary basis;
- e) that WRC-95 resolved in its Resolution 23 (WRC-95) that, with effect from 18 November 1995, the Bureau shall not examine with respect to Nos. 1241 to 1245 of the Radio Regulations, and shall not apply the related provisions to, frequency assignment notices in the non-planned bands below 28 000 kHz,

resolves

to invite administrations to apply the procedures established by IMO, taking into account the IMO's NAVTEX Manual, for coordinating the use of the frequencies 490 kHz, 518 kHz and 4 209.5 kHz,

instructs the Secretary-General

- 1. to invite IMO to provide ITU with information on a regular basis on operational coordination for NAVTEX services on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz;
- 2. to publish this information in the List of Coast Stations (see S20.7).

SUP

ANNEX TO RESOLUTION 339 (WRC-95)

RESOLUTION 506 (Rev.WRC-97)

**USE BY SPACE STATIONS IN THE BROADCASTING-SATELLITE SERVICE
OPERATING IN THE 12 GHz FREQUENCY BANDS ALLOCATED TO THE
BROADCASTING-SATELLITE SERVICE OF THE GEOSTATIONARY-
SATELLITE ORBIT AND NO OTHER**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that a Plan designating frequency assignments in the above-mentioned frequency bands and positions in the geostationary-satellite orbit was adopted by the World Broadcasting-Satellite Administrative Radio Conference (Geneva, 1977) for Regions 1 and 3;
- b) that a similar Plan for Region 2 was adopted by the Regional Administrative Conference for the Planning of the Broadcasting-Satellite Service in Region 2 (Geneva, 1983);
- c) that the Plans referred to in *considering a)* and *b)* above were consolidated in Appendix 30 (Orb-85) to the Radio Regulations at the First Session of the World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilizing It (Geneva, 1985) (Orb-85);
- d) that the Plans in Appendices S30 and S30A for Regions 1 and 3 have been modified by this Conference,
- e) that the operation of the broadcasting-satellite service in the frequency bands concerned in orbits other than the geostationary-satellite orbit might be incompatible with the Plans referred to in *a)*, *b)* and *d)* above,

resolves

that administrations shall ensure that their space stations in the broadcasting-satellite service in these frequency bands are operated in the geostationary-satellite orbit and no other.

RESOLUTION 517 (Rev.WRC-97)

**TRANSITION FROM DOUBLE-SIDEBAND (DSB) TO SINGLE-SIDEBAND (SSB)
OR OTHER SPECTRUM-EFFICIENT MODULATION TECHNIQUES
IN THE HF BANDS BETWEEN 5 900 kHz AND 26 100 kHz
ALLOCATED TO THE BROADCASTING SERVICE**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that the HF bands allocated to the broadcasting service between 5 900 kHz and 26 100 kHz are severely congested;
- b) that SSB techniques allow more efficient utilization of the frequency spectrum than DSB techniques;
- c) that SSB techniques enable reception quality to be improved;
- d) that Recommendation 515 (HFBC-87) encourages the accelerated design and manufacture of SSB transmitters and receivers;
- e) Appendix S11 to the Radio Regulations concerning the SSB system specification in the HF broadcasting services;
- f) that rapid developments are taking place in digital sound broadcasting technologies;
- g) that digital modulation or other spectrum-efficient modulation techniques are expected to provide the means to achieve the optimum balance between sound quality, circuit reliability and bandwidth;
- h) that digitally modulated emissions can, in general, provide more efficient coverage than amplitude modulated transmissions by using fewer simultaneous frequencies and less power;
- i) that the lifetime of a transmitter is at least twenty years;
- j) that it is economically unattractive, using current technology, to convert existing conventional DSB broadcasting systems to SSB operation;
- k) that some DSB transmitters have been used with digital modulation techniques without transmitter modifications;
- l) that the lifetime of a receiver is of the order of ten years;
- m) that ITU-R is carrying out urgent studies on the development of broadcast digital modulation emissions in the bands allocated to the broadcasting service below 30 MHz;
- n) that other spectrum-efficient modulation techniques may be developed in the future,

resolves

1 that the procedure in the Annex to this Resolution shall be used for the purpose of ensuring an orderly transition from DSB to SSB or other spectrum-efficient modulation techniques recommended by ITU-R in the HF bands between 5 900 kHz and 26 100 kHz allocated to the broadcasting service;

2 that the final date for the cessation of DSB emissions specified in the Annex to this Resolution shall be periodically reviewed by competent future world radiocommunication conferences in the light of the latest available complete statistics on the worldwide distribution of SSB and other spectrum-efficient modulation technique transmitters and receivers, as called for in Resolution COM4-14,

instructs the Director of the Radiocommunication Bureau

to compile and maintain the statistics referred to in *resolves* 2, to make these statistics available to administrations and to submit summaries thereof to the competent future world radiocommunication conferences,

invites ITU-R

to continue its studies on digital techniques in HF broadcasting as a matter of urgency with a view to the development of this technology for future use,

invites administrations

to assist the Director of the Radiocommunication Bureau by providing the relevant statistical data and to participate in ITU-R studies on matters relating to the development and introduction of digitally modulated transmissions in the HF bands between 5 900 kHz and 26 100 kHz allocated to the broadcasting service.

ANNEX TO RESOLUTION 517 (Rev.WRC-97)

**PROCEDURE FOR THE TRANSITION FROM DOUBLE-SIDEBAND (DSB) TO
SINGLE-SIDEBAND (SSB) OR OTHER SPECTRUM-EFFICIENT
MODULATION TECHNIQUES IN THE HF BANDS BETWEEN
5 900 kHz AND 26 100 kHz ALLOCATED TO THE
BROADCASTING SERVICE**

- 1 The early introduction of SSB or other spectrum-efficient modulation techniques recommended by ITU-R is encouraged.
- 2 All DSB emissions shall cease not later than 31 December 2015, at 2359 hours UTC.
- 3 SSB emissions shall comply with the characteristics specified in Appendix S11 to the Radio Regulations.
- 4 Other spectrum-efficient modulation techniques, including digital, shall comply with the characteristics to be recommended by ITU-R.
- 5 After 31 December 2015, 2359 hours UTC, SSB emissions shall comply with the characteristics specified in Appendix S11 to the Radio Regulations which, *inter alia*, require a carrier reduction of 12 dB relative to peak envelope power.
- 6 Until 31 December 2015, 2359 hours UTC, SSB emissions intended for reception by DSB receivers with envelope demodulation, in the bands currently used under Article S12, shall have a carrier reduction of 6 dB relative to peak envelope power.
- 7 SSB emissions with a carrier reduction of 12 dB relative to peak envelope power can also be introduced in the spectrum allocated for the type of emission described in § 6 above.
- 8 Other spectrum-efficient modulation techniques recommended by ITU-R, including digital, can also be introduced in the HF bands between 5 900 kHz and 26 100 kHz allocated to the broadcasting service.
- 9 Until 31 December 2015, 2359 hours UTC, whenever an administration replaces a DSB emission by an emission using SSB or other spectrum-efficient modulation techniques, including digital, it shall ensure that the level of interference is not greater than that caused by the original DSB emission.

RESOLUTION 715 (Rev.WRC-97)

**STUDIES CONCERNING SHARING BETWEEN THE RADIONAVIGATION-
SATELLITE SERVICE AND THE MOBILE-SATELLITE SERVICE
IN THE BANDS 149.9 - 150.05 MHz AND 399.9 - 400.05 MHz**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz are allocated to and used by radionavigation-satellite service (RNSS) on a primary basis;
- b) that this Conference allocated the bands 149.9 - 150.05 MHz and 399.9 - 400.05 MHz (Earth-to-space) to the mobile-satellite service on a primary basis;
- c) that requirements of the radionavigation-satellite service (RNSS) and the mobile-satellite service (MSS) should be met in these frequency bands;
- d) that there may be difficulties in the sharing between the RNSS and the MSS, and studies are being carried out by ITU-R;
- e) that there is a need for further study of the operational and technical means to facilitate sharing between the RNSS and the MSS (in the Earth-to-space and space-to-Earth directions) in these bands,

recognizing

that No. 953/S4.10 of the Radio Regulations applies to the use of these bands by the RNSS,

resolves

to invite ITU-R to continue to carry out studies in order to finalize Recommendations which identify the operational and technical measures necessary to facilitate sharing between the MSS and the RNSS,

urges administrations

to participate in such studies by submitting contributions to ITU-R relating to the above-mentioned studies as soon as possible.

RESOLUTION PLEN-1 (WRC-97)

**TELECOMMUNICATION RESOURCES FOR DISASTER MITIGATION
AND RELIEF OPERATIONS**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that ITU, in the same spirit as reflected in Articles 40 and 46 of its Constitution and in Resolution 209 (Mob-87), has specifically recognized the importance of the international use of radiocommunications in the event of natural disasters, epidemics, famines and similar emergencies;
- b) that the Plenipotentiary Conference of the International Telecommunication Union (Kyoto, 1994), in endorsing Resolution 7 of the World Telecommunication Development Conference (Buenos Aires, 1994), adopted Resolution 36 on telecommunications for disaster mitigation and disaster relief operations;
- c) that administrations have been urged to take all practical steps to facilitate the rapid deployment and effective use of telecommunication resources for disaster mitigation and disaster relief operations by reducing and, where possible, removing regulatory barriers and strengthening transborder cooperation between States,

recognizing

- a) the potential of modern telecommunication technologies as an essential tool for disaster mitigation and relief operations and the vital role of telecommunications for the safety and security of relief workers in the field;
- b) the particular needs of developing countries and the special requirements of the inhabitants of remote areas;
- c) the progress made in the implementation of Resolution 36 with respect to the preparation of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations, as annexed to this Resolution,

noting

with appreciation the scheduling of the Intergovernmental Conference on Emergency Telecommunications (ICET-98) from 16 to 18 June 1998 in Tampere, Finland, which is expected to adopt the Convention referred to in *recognizing* c) above,

resolves

to invite the ITU Radiocommunication Sector to continue to study, as a matter of urgency, those aspects of radiocommunications that are relevant to disaster mitigation and relief operations, such as decentralized means of communications that are appropriate and generally available, including amateur radio facilities and mobile and portable satellite terminals,

requests the Director of the Radiocommunication Bureau

to support administrations in their work towards the implementation of Resolution 36,

instructs the Secretary-General

to work closely with the United Nations Emergency Relief Coordinator with a view to further increasing the Union's involvement in, and support to, disaster communications, and to report on the outcome of the Tampere Conference to the 1998 Plenipotentiary Conference so that that Conference or the ITU Council may take any action that it deems necessary,

invites

the United Nations Emergency Relief Coordinator and the Working Group on Emergency Telecommunications to collaborate closely with ITU in further work towards the implementation of Resolution 36, and in particular the adoption of the Convention on the Provision of Telecommunication Resources for Disaster Mitigation and Relief Operations,

urges administrations

to give their full support to the adoption of the said Convention and its national implementation.

RESOLUTION PLEN-2 (WRC-97)

**REGIONAL PREPARATIONS FOR WORLD
RADIOCOMMUNICATION CONFERENCES**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that many regional telecommunication organizations have coordinated their preparations for this Conference;
- b) that a number of common proposals have been submitted to this Conference from administrations participating in the preparations of regional telecommunication organizations;
- c) that this consolidation of views at regional level, together with the opportunity for interregional discussions prior to the Conference, has eased the task of reaching a consensus during the Conference;
- d) that the burden of preparation for future conferences is likely to increase;
- e) that there is consequently great benefit to the Members of the Union of coordination of preparations at regional level;
- f) that the success of future conferences will depend on greater efficiency of regional coordination and interaction at interregional level prior to future conferences;
- g) that some regional organizations lack the necessary resources to adequately organize and to participate in such preparations;
- h) that there is a need for overall coordination of the interregional consultations,

noting

- a) that at the World Telecommunication Development Conference (Buenos Aires, 1994) many regional telecommunication organizations expressed the need for the Union to cooperate more closely with regional telecommunication organizations;
- b) that consequently the Plenipotentiary Conference (Kyoto, 1994) resolved that the Union should develop stronger relations with regional telecommunication organizations,

further noting

that in some regions the relationship with the ITU-R regional offices has proved to be of great benefit,

resolves to instruct the Director of the Telecommunication Development Bureau

a) to consult the regional telecommunication organizations on the means by which assistance can be given to their preparations for future world radiocommunication conferences in the following areas:

- 1) organization of regional preparatory meetings;
- 2) information sessions;
- 3) development of coordination methods;
- 4) identification of major issues;
- 5) facilitation of regional and interregional meetings;
- 6) convergence of interregional views on major issues;

b) to submit a report on the results of the consultation to the Plenipotentiary Conference for consideration,

invites the Plenipotentiary Conference

to consider the report submitted by the Directors of BR and BDT and take appropriate measures to provide the necessary resources for BR and BDT to provide the necessary assistance to regional telecommunication organizations in the preparations for world radiocommunication conferences.

RESOLUTION PLEN-3 (WRC-97)

**REVIEW AND POSSIBLE REVISION OF THE
1997 BSS PLANS FOR REGIONS 1 AND 3**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that it has adopted a revision of the BSS Plans for Regions 1 and 3 providing capacity for all new countries in accordance with Resolutions 524 (WARC-92) and 531 (WRC-95);
- b) that certain countries requested that a replanning be undertaken in order to increase the Plan capacity so as to provide a channel capacity large enough to permit the economical development of a broadcasting-satellite system;
- c) the increasing number of applications under Article 4 for modifications involving additions to the Plans;
- d) the rights of all Member States to equitable access to the spectrum allocated to satellite broadcasting, and that Article 44 of the Constitution provides, *inter alia*, that "Members shall bear in mind that radio frequencies and the geostationary-satellite orbit are limited natural resources and that they must be used rationally, efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or groups of countries may have equitable access to both",

resolves

- 1 that an inter-conference representative group (IRG) shall be established in accordance with Annex 2;
- 2 that the Director of the Radiocommunication Bureau shall present the results of the IRG's studies to WRC-99 regarding the feasibility of increasing the minimum assigned capacity for countries in Regions 1 and 3 to around ten analogue-equivalent channels, based on the planning principles in Annex 1;
- 3 that WRC-99 should consider the results of the above studies and, if the conclusion is that such replanning is feasible, initiate an appropriate revision for completion no later than 2001,

invites ITU-R

to study, as a matter of urgency, the technical possibilities for increasing the minimum capacity assigned to all Region 1 and 3 countries in the Plans for Regions 1 and 3 contained in Appendices 30 and 30A, in cooperation with the IRG and in accordance with the principles set out in Annex 1,

invites the Council to recommend to the 1998 Plenipotentiary Conference

to consider convening a world radiocommunication conference no later than 2001 to revise those parts of the Plans in Appendices S30 and S30A applying to Regions 1 and 3, subject to consideration by WRC-99 of the results of the studies carried out by the IRG,

instructs the Secretary-General

to bring this Resolution to the attention of the Council, with a view to undertaking, at competent conferences, a review of the studies and, if necessary, a revision of the relevant parts of Appendices S30 and S30A and associated provisions of the Radio Regulations.

ANNEX 1

Principles for the review and possible revision of the 1997 BSS Plans for Regions 1 and 3

The 1997 World Radiocommunication Conference, reviewed the planning principles proposed by several administrations and those adopted by WRC-95 in Resolution 531, and agreed to establish an inter-conference representative group (IRG) to carry out studies in accordance with the principles given below.

These principles are to be used in assessing the possibilities for meeting the objectives in this Resolution.

- 1) Provide, for all countries, a minimum capacity equivalent to around ten analogue channels while maintaining the same proportionality adopted by WARC-77.
- 2) Planning is to be based mainly on national coverage.
- 3) Protect notified assignments which are in conformity with Appendices 30 and 30A, which have been brought into use and for which the date of bringing into use has been confirmed to the Bureau.
- 4) In order to avoid obsolescence of the plans, caused by technical assumptions becoming out of date, ensure that the Plan is established with a view to achieving long-term flexibility.
- 5) Leaving capacity for future additional requirements.
- 6) Consider, for planning, whether a complete digital approach may be appropriate in the future and, if so, provide for the simultaneous operation of analogue and digital systems, if necessary during a defined time-scale.
- 7) Ensure that the integrity of the Region 2 Plans and their associated provisions is preserved, by providing the same protection to the assignments contained in those Plans as now received under the relevant provisions of the Radio Regulations, and by not requiring more protection from assignments in the Region 2 Plans than that currently provided under the Radio Regulations.
- 8) Ensure compatibility between the broadcasting-satellite service in Regions 1 and 3 and services having allocations in the planned bands in all three Regions.

ANNEX 2

Inter-conference representative group

WRC-97 has resolved that an inter-conference representative group (IRG) be established to study the feasibility of increasing the minimum capacity for countries in Regions 1 and 3 to around the equivalent of ten analogue channels in accordance with the principles set out in Annex 1.

The IRG should be structured to consist of:

- a supervisory policy group open to participation by all Member States, but endeavouring to ensure adequate representation of administrations from all ITU regions;
- the Bureau, assisted by a group of technical experts (GTE) and working under the guidance of the supervisory policy group. Members of the GTE should be drawn from all Member States and Sector Members on the basis of technical expertise.

JWP 10-11S is encouraged to contribute to the studies requested of ITU-R, as appropriate.

Requests for additional studies by the IRG

1) Annex 7 of Appendix 30

The IRG is requested to examine Annex 7 in the light of its studies for possible revision of the BSS Plans and with respect to the decisions taken by WRC-97, such as the reduction of downlink e.i.r.p. Its advice on the relevance of that Annex in providing protection to all services sharing the plan bands, and particularly the Region 2 BSS Plans, should be reported to WRC-99.

2) Avoidance of monopolization of the BSS resource

The IRG is requested to consider concerns identified by WRC-97: modifications of the Plans for additional requirements or subregional systems should not lead to monopolization of the use of the bands by a country or a group of countries. Advice on how to address these concerns should be reported to WRC-99.

Requests for studies by ITU-R

ITU-R is requested to study and provide advice to the IRG on the following subjects.

1) Appropriate technical criteria for the studies addressing the following:

- digital-to-digital protection ratios;
- digital-to-analogue protection ratios;
- analogue-to-digital protection ratios;
- digital emission masks;

and associated calculation methods.

- 2) A possible reduction in e.i.r.p. and related C/N ratio and link budget margins, as a means of alleviating BSS/terrestrial compatibility constraints.
- 3) Appropriate feeder-link e.i.r.p. and receiver noise temperature.
- 4) Comparison of alternative polarization options.
- 5) The suitability of the minimum earth receive elevation angles used by WARC-77.

Request to ITU

ITU is requested to provide the necessary assistance to facilitate the active participation of developing countries, especially the LDCs, in both the supervisory policy group and the technical group of experts of the IRG.

RESOLUTION PLEN-4 (WRC-97)

**IMPLEMENTATION OF THE DECISIONS OF WRC-97 RELATING TO
APPENDICES S30 AND S30A**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that WRC-97 has adopted values for various technical parameters relating to Appendices 30 and 30A;
- b) that these technical parameters were used for the establishment of the revised Plans for Regions 1 and 3,

recognizing

- a) that the revised Regions 1 and 3 Plan must be compatible with the Region 2 Plan and with the other services which have primary allocations in the planned bands in all three Regions;
- b) that, in revising the Regions 1 and 3 Plan, the orbital position of a number of administrations were changed;
- c) that a large number of Article 4 submissions that have either been processed or are currently being processed might affect the services mentioned in *recognizing a)* above;
- d) that the Bureau needs clear instructions from WRC-97 on how to deal with these submissions and how to protect the Region 2 Plans and other services;
- e) that the instructions to the Bureau should take effect as of the close of WRC-97 (22 November 1997),

resolves

1 that as of 22 November 1997 the Radiocommunication Bureau shall use the values of technical parameters adopted for planning at WRC-97 in its subsequent examination of submissions for modification and notifications of assignments in the Regions 1 and 3 Plan received under Articles 4 and 5 of Appendices S30 and S30A. In particular, the following technical parameters shall be applied:

- protection ratios used for EPM analyses as defined in Recommendation ITU-R BO.1296 instead of the protection ratios applied at WARC-77 and WARC-88;
- new reference earth receiving antenna pattern (Recommendation ITU-R BO.1213) instead of earth reference receiving antenna pattern applied at WARC-77;
- new reference feeder-link antenna patterns (Earth and space) in accordance with Recommendations ITU-R BO.1295 and ITU-R BO.1296 instead of the feeder link (Earth and space) reference antenna patterns applied at WARC-88;

2 that the following revisions to the Regions 1 and 3 Plans:

- the replacement of the assignments to Australia at 128° E and 98° E by assignments at 152° E and 164° E, respectively;
- the assignments successfully coordinated under Article 4 of Appendices 30 and 30A for satellite networks RST-1, -2, -3 and -5, at orbital positions 36° E, 56° E, 86° E and 140° E, respectively;
- the replacement of assignments at 31° W by assignments at 30° W and 33.5° W* ;

shall not be considered as new or additional assignments under paragraph 4.1b) of Article 4 of Appendices S30 and S30A. Therefore, these assignments shall not be subject to the provisions of paragraph 4.3.5 of Appendix S30 and paragraph 4.2.5 of Appendix S30A and the associated Rules of Procedure. In particular, the associated orbital positions shall be treated as "orbital positions in the Plan", and the assignments shall not lapse even if they are not brought into use within eight years from the adoption of the revised Plans;

3 that, the Bureau shall use equivalent protection margin (EPM) criteria to establish a new reference situation for the revised Regions 1 and 3 BSS and feeder-link Plans. In creating the new reference situation, the Bureau shall convert the merged OEPM file into separate uplink and downlink EPM files by eliminating the redundant beams created for the purpose of OEPM calculations using different "strapping" between feeder-link and downlink channels. The resultant new reference situation, including the use of power control for the feeder link, shall be published in a circular-letter for subsequent use in the application of the provisions of Appendices S30 and S30A;

4 that the Radiocommunication Bureau shall review all special sections already published in order to determine the requirement for coordination with the revised Regions 1 and 3 Plan as well as with the current Region 2 Plan and other services in all three Regions, and publish the results of its review in corrigenda to the concerned special sections (see Resolution COM4-20);

5 that in examining the requirement for coordination of other services in all three Regions with the revised Regions 1 and 3 Plan in the cases described in *resolves* 4, the following methodology shall be applied:

- Protection from fixed-satellite service assignments already published. The Bureau shall review all special sections of the series AP30/C previously published, and publish corrigenda where required.
- Protection from fixed-satellite service assignments not yet processed. The Bureau shall determine the requirement for coordination and publish the request in its weekly circular. The administrations responsible for the fixed-satellite service assignments shall then initiate coordination with the affected assignments in the revised Plan.
- Protection from terrestrial assignments already in process. The Bureau shall determine the requirement for coordination and publish the request in its weekly circular. The administration responsible for the terrestrial assignments shall then initiate coordination with the affected assignments in the revised Plan;

* The orbital position at 31° W shall no longer be considered as an orbital position in the Plan.

6 that as of the end of the Conference the Bureau shall process the pending Article 4 modifications with respect to the revised reference situation described in *resolves* 3, as follows:

- the Bureau shall process all pending modifications to the Plans of Appendix S30 and Appendix S30A (i.e. those modifications being treated under Article 4 that have not yet completed the modification procedures) in the same date order of receipt by the Bureau of the complete information on the request for modification and, using the new technical planning criteria and reference situation, identify for each pending modification the list of administrations whose agreement is required and publish this list of affected administrations;
- within four months from the date of the above publication, possibly affected administrations should provide comments to the Bureau and to the notifying administration; however, the notifying administration shall indicate any agreements which have been obtained previously and any new agreements;
- in those cases where the degradation of the margins caused by the proposed modification is no worse under the new situation arising from the revision of the Plan than under the original situation, any agreements previously obtained under the Article 4 procedures of Appendices 30 or 30A should be confirmed by the respective administrations;
- the existing time period to bring the modifications or additions into use of five years plus a possible extension of three years will continue to be counted as from the date of receipt of the modification or additions by the Bureau of the complete Annex 2 information pertaining to the request for modification;
- any modifications or additions involving new frequencies or orbit positions, or both, which have not been brought into service within this five + three year period shall be cancelled by the Bureau after it has informed the notifying administrations.

RESOLUTION PLEN-5 (WRC-97)

**IMPLEMENTATION OF ANNEX 5 TO APPENDIX S30 (Rev.WRC-97)
AND ANNEX 3 TO APPENDIX S30A (Rev.WRC-97)**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that this Conference has modified the Plan for the BSS in the frequency bands 11.7 - 12.2 GHz in Region 3 and 11.7 - 12.5 GHz in Region 1, as well as the Plan for feeder links for the BSS in the frequency bands 14.5 - 14.8 GHz and 17.3 - 18.1 GHz in Regions 1 and 3, using the updated technical criteria as contained in Annex 5 to Appendix S30 (Rev.WRC-97) and Annex 3 to Appendix S30A (Rev.WRC-97);
- b) that this Conference decided that the provisions of the Radio Regulations, as revised by WRC-97, shall provisionally apply as from 1 January 1999;
- c) that there is a need to apply the same technical criteria for processing new Article 4 submissions, so as to avoid problems of a parallel set of technical criteria,

resolves to instruct the Bureau

to apply, as of 22 November 1997, the technical data contained in Annex 5 to Appendix S30 (Rev.WRC-97) and Annex 3 to Appendix S30A (Rev.WRC-97) to the submissions under Articles 4 and 5 of these Appendices.

RESOLUTION GTPLEN1-1 (WRC-97)

**GENERAL REVIEW OF THE RESOLUTIONS AND RECOMMENDATIONS
OF WORLD ADMINISTRATIVE RADIO CONFERENCES AND WORLD
RADIOCOMMUNICATION CONFERENCES**

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that it is important to keep the resolutions and recommendations of the past world administrative radio conferences and world radiocommunication conferences under constant review, in order to keep them up to date;
- b) that the report of the Director of the Radiocommunication Bureau submitted to this Conference provided a useful basis for a general review of the resolutions and recommendations of past conferences which was conducted by this Conference,

invites future competent world radiocommunication conferences

to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation and to take appropriate action,

instructs the Director of the Radiocommunication Bureau

to conduct a general review of the resolutions and recommendations of previous conferences and, if necessary after consultation with the Radiocommunication Advisory Group and the Chairmen of the relevant radiocommunication study groups, to submit a report to future competent world radiocommunication conferences which indicates their current status, and what follow-up action may be advised.

RESOLUTION GTPLEN1-2 (WRC-97)

INTERVAL BETWEEN WORLD RADIOCOMMUNICATION CONFERENCES

The World Radiocommunication Conference (Geneva, 1997),

considering

- a) that the Additional Plenipotentiary Conference (Geneva, 1992) concluded that, in general, world radiocommunication conferences should be held every two years in order for ITU to close the widening gap between its Radio Regulations and the current radiocommunication environment;
- b) that No. 90 of the ITU Constitution states that world radiocommunication conferences shall normally be convened every two years; however, following the application of the relevant provisions of the Convention, such a conference need not be convened or an additional one may be convened;
- c) that serious concerns were expressed at this Conference about the extent of the agendas of the forthcoming world radiocommunication conferences, the limited time available for their preparation and the tendency to reconsider major issues at a subsequent conference,

recognizing

- a) the argument that extending the interval between world radiocommunication conferences to two and a half or three years would increase the time available for preparatory studies by Member States, Sector Members and the Radiocommunication Bureau;
- b) the counter-argument that efforts should be focused on establishing realistic and manageable agendas, rather than on extending the interval between conferences;
- c) the strategies enunciated in contributions to WRC-97 for limiting conference agendas to items requiring urgent regulatory action for which the necessary technical preparatory work can be completed;
- d) the further view that, if it is determined during the course of preparations for any given conference that preparatory studies related to a particular agenda item are not sufficiently mature to lead to substantive results, action on that item could include possible deferral until the following conference,

noting

that a decision to change the interval between world radiocommunication conferences will need to be based on a thorough analysis of the impact of such a change on the future financial plans of the Union and on the extent of the resources available to the Secretariat to support such conferences,